



Hon Stephen Robertson MP
Member for Stretton

Submission No. 56
(Inq into Obesity)
JE 3106102



**Queensland
Government**

Minister for Health

MI153384
MO: H/08/02893

29 MAY 2008

Mr Steve Georganas MP
Chairman
Standing Committee on Health and Ageing
House of Representatives
Parliament House
CANBERRA ACT 2600

Dear Mr Georganas

Thank you for your letter dated 25 March 2008, on behalf of the Standing Committee on Health and Ageing, inviting Queensland Health to provide a submission into the Commonwealth Parliamentary Inquiry into Obesity in Australia.

Queensland Health welcomes this opportunity to provide a submission to the inquiry. Overweight and obesity is a significant health challenge for Queensland as well as nationally. In Queensland, measured data from 2006 showed 70% of males and 51% of females over 25 years of age are overweight or obese, while 21% of children, 5-17 years, are overweight or obese.

Queensland is working hard to tackle overweight and obesity as a matter of priority. Queensland Health has led the development of *Eat Well Be Active – Healthy Kids for Life Action Plan 2005-2008*, the first Whole-of-Government action plan for our State to promote healthy weight in children and young people. In 2006, the Queensland Government also convened an Obesity Summit to explore ways in which the Government, businesses, community organisations, professional associations, families and individuals could work together to help more Queenslanders achieve and maintain a healthy weight.

The Premier of Queensland established an Obesity Taskforce, now Eat Well Be Active, following the Summit, to oversee Summit initiatives, to coordinate implementation of initiatives under the *Eat Well Be Active – Healthy Kids for Life Action Plan* and to advise Government on future strategies for addressing obesity in Queensland. The Queensland Government is also taking this problem seriously through investing in increasing our nutrition and physical activity primary prevention workforce capacity. Our \$16 million incremental investment is translating to 148 new positions across the State.

19th Floor State Health Building
147-163 Charlotte Street Brisbane
GPO Box 48 Brisbane
Queensland 4001 Australia
Telephone +61 7 3234 1191
Facsimile +61 7 3229 4731
Email health@ministerial.qld.gov.au
Website www.health.qld.gov.au

All of these efforts in Queensland appear to be having some positive effects, as the mean rate of overweight and obesity for adults is now approximately 7% less, and the rate for Queensland children is now 2-3% less than rates from other States with available data. However, we still need to do more as our 2006 Healthy Kids Queensland survey found more children are now severely obese than 20 years ago.

I congratulate the House of Representatives Standing Committee on Health and Ageing for calling for an inquiry into obesity in Australia and look forward to the outcomes of the inquiry.

Should you have any queries regarding my advice to you, Ms Taryn Black, Senior Policy Advisor, will be pleased to assist you and can be contacted on telephone (07) 3234 1191.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Stephen Robertson', with a long horizontal flourish extending to the right.

STEPHEN ROBERTSON MP



**Queensland
Government**
Queensland Health

QUEENSLAND HEALTH SUBMISSION

to the

Australian Parliament

**House of Representatives
Standing Committee on
Health and Ageing**

**INQUIRY INTO OBESITY
IN AUSTRALIA**

May 2008

QUEENSLAND HEALTH SUBMISSION TO THE INQUIRY INTO OBESITY IN AUSTRALIA

INTRODUCTION

Queensland Health welcomes the opportunity to provide the following submission in response to the Australian Parliament House of Representatives Standing Committee on Health and Ageing Inquiry into obesity in Australia on the following terms of reference:

- inquire into and report on the increasing prevalence of obesity in the Australian population, focusing on future implications for Australia's health system; and
- recommend what governments, industry, individuals and the broader community can do to prevent and manage the obesity epidemic in children, youth and adults.

The Queensland Health submission on the Inquiry into Obesity has been written by the Health Promotion Unit of the Population Health Branch, Division of the Chief Health Officer. The submission has been approved by the Minister for Health, the Hon Stephen Robertson MP.

QUEENSLAND HEALTH RECOMMENDATIONS

1. In the development of the National Preventative Strategy for Australia, ensure the Taskforce consider and include sustainable multi-sector and multi-level strategic approaches to better address overweight and obesity in Australia beyond primary care, including identifying gaps in effort, best practice approaches and address system enablers towards better coordination between tiers of Government.
2. Focus efforts more on the primary prevention of overweight and obesity in the population through actions to promote nutrition and physical activity and healthy weight in a sustainable way, by addressing determinants and causes of preventable chronic diseases, many of which lie outside the responsibilities of the health system.
3. Identify priority areas and population groups where urgent action is needed and opportunities exist or could be implemented in the future to more holistically prevent and manage overweight and obesity (e.g., the early years through inclusion of height and weight growth measurements under the new 4 year old Health Check).
4. Address current gaps in identification, management and treatment systems for chronic disease, including better integration of referral pathways across primary secondary and tertiary care for those in the population identified as overweight and obese, especially children and young people.
5. Establish and invest in a comprehensive ongoing national chronic disease risk factor surveillance and monitoring system, including data on determinants of chronic disease and risk factors, particularly obesity, nutrition, and physical activity.
6. Adequately and appropriately resource a national strategy to tackle overweight and obesity, commensurate with the urgency of the issue and prevalence in the population.

More detail regarding Queensland Health's recommended key areas and priority issues for immediate action is outlined within the submission.

RESPONSE TO SPECIFIC ISSUES IDENTIFIED IN THE TERMS OF REFERENCE OF THE INQUIRY INTO OBESITY

THE URGENCY

Overweight and obesity is now a serious epidemic in Australia as well as globally. In Australia more than half of all adults and almost one in four children are affected. Among Australian children the rate of overweight doubled and the rate of obesity trebled in the decade to 1995, and now almost one in four children are affected. These figures are even higher for some ethnic populations and age groups.

Recent data indicate that an additional 1% of children in Australia are becoming overweight each year, which is among the highest rates of increase in the world.

Excess weight gain in childhood and adolescence is now known to be predictive of adult overweight and obesity, chronic diseases (such as cardiovascular disease, type 2 diabetes and some forms of cancer) and early mortality.

The obesity epidemic needs to be tackled urgently as overweight and obesity increases the risk of a range of serious conditions including type 2 diabetes, cardiovascular disease, asthma, gall bladder disease, depression and social isolation, osteo-arthritis, back problems, infertility and some forms of cancers.

The health, social and economic consequences of this epidemic are extremely serious. Evidence indicates that due to the current overweight and obesity epidemic, the present generation of children may be the first to die at a younger age than their parents.

INCREASING PREVALENCE OF OVERWEIGHT AND OBESITY IN QUEENSLAND

The overweight and obesity epidemic is having a huge impact in Queensland. Queensland is demonstrating high prevalence results for overweight and obesity in our children, young people and adults. To help to tackle this important public health issue, the Queensland Government is committing \$16 million per annum recurrent investment towards increasing capacity to deliver evidence-based initiatives promoting healthy weight, nutrition and physical activity.

Children and Young People

Queensland has recently collected measured data for children and young people.⁽¹⁾ The *Healthy Kids Queensland* survey conducted in 2006 demonstrated 21% of our children are either overweight and obese. Overall, 19.5% of boys and 22.7% of girls aged 5–17 years were overweight or obese. The prevalence of overweight and obesity generally increased with age, although the prevalence was highest in year 5 girls.

Comparison with national data from 1985 and 1995 shows that the prevalence of overweight and obesity for Queensland 5-17 year olds has continued to increase; with most age groups the prevalence being twofold greater than national rates of 1985.

Overall, and within most age groups, the prevalence of overweight and obesity was slightly lower (~2-3%) in Queensland children compared with children of similar ages from other States where there is available data (New South Wales, 2004; Western Australia, 2003). In recent years in Queensland there appears to have been a plateau-ing of the increases in the incidence of childhood overweight and obesity that have been observed in time-series data from 1985-1995.

Of major concern, however, is that the Healthy Kids Queensland survey 2006 found more children are now severely obese than 20 years ago. Waist circumference increased from 1985 to 2006 for children of year 5 and year 10 age; with the largest increases occurring at the upper end of the waist circumference distribution (however, no comparative data were available for children of year 1 age in the 1985 survey.) These data illustrate we urgently need to do more to better manage and treat overweight and obesity in children and young people.

Collectively, these Healthy Kids Queensland survey data are consistent with trends in other states and developed countries throughout the world in documenting an increasing prevalence of overweight and obesity and increasing waist circumference.

Adults

In 2000 the national AusDiab study included the professional measurement of Queensland men and women aged 25 years and older, which showed 45 % of men were obese and another 21 % were overweight, while 27 % of women were obese and another 24 % were overweight.

These results were similar to the rates of overweight and obesity of 67% for men and 52% for women in other locations throughout Australia who were measured at that time.

In Queensland, this corresponds to at least 650 000 adults who are obese and 25 000 children (aged 5-17) who are obese. ⁽²⁾

More recent measured data for Queensland adults were obtained in 2006 as an additional measure during the National Survey of Adult Oral Health. These data showed 58% of adults aged 18 and over years of age were overweight or obese, including 63% men and 55% women. Of these, 1 in 5 adults were obese in 2006. In addition, half of all adults measured had a waist circumference that was in the 'at risk' range.

Measured height and weight data has also been collected within a similar timeframe for NSW under the National Survey of Adult Oral Health (2004-2006), demonstrating a prevalence of overweight and obesity of 63.5% (26.2% obese) and at risk waist circumference measure of 61%. In comparison, this suggests that the Queensland adult rates of overweight and obesity are now lower than NSW by approximately 7%.

Although these data suggest the prevalence of overweight and obesity in Queensland adults and children may be lower than in other States/Territories with available data, it is still concerning that 1 out of every 5 adults are obese (~20%) and around 1 in 5 children are either overweight or obese in Queensland. A threshold of 15% prevalence has been the figure used by the World Health Organisation in defining a critical threshold for intervention for nutritional epidemics. ⁽³⁾

DETERMINANTS OF OVERWEIGHT AND OBESITY

Increased weight is caused by increased energy (calorie) intake, decreased physical activity or a combination of both. Components that are amenable to intervention are overall energy consumption and physical activity. Research demonstrates that improving diet and physical activity can help prevent, manage and treat obesity and chronic disease, and can help everyone live longer and enjoy better health.

Healthier eating and greater levels of physical activity would help to address all of Australia's national health priorities: asthma, cancer, cardiovascular health, diabetes, injury prevention, mental health, arthritis and musculoskeletal conditions.

National Nutrition Surveys in 1985 and 1995 indicated that energy intake had increased significantly by 4% for adults, 11% for girls and 15% for boys aged 10-15 years. The dramatic increase for children was due mainly to increased consumption of soft drinks, snacks and fast foods. Although the Healthy Kids Queensland Survey 2006 found diets of Queensland children aged 5-17 years, on the whole, fell within recommendations for energy intake, there are concerns about diet quality, especially vegetable and fruit consumption for older children. These fell short of the recommendations, as did intakes of calcium and vitamin C. ⁽¹⁾

Industrialisation, economic development, urbanisation and changes in technology have been associated with changes to our lifestyle behaviours. These changes have reduced our opportunities for human movement, meaning that people are spending more time in sedentary activities, like watching television and playing computer games, more time travelling in cars, and less time playing organised sport and enjoying other physical activities such as walking or cycling to school.

In 2000, 56 % of Queensland children participated in organised sport, which was lower than the national average of 59 % per cent. Alarming, 2006 Queensland data showed most children of school age did not meet the national physical activity recommendations of one hour per day of moderate to vigorous activity, and on average a quarter of children were exceeding recommendations for screen based entertainment (i.e. more than 2 hours in leisure time).

Queensland has similar 2006 data for adults which showed more than 50% of adult Queenslanders were not meeting the recommended 30 minutes of moderate activity per day, and 16% of these adults reported that they did no activity at all. However, these results are encouraging in that the prevalence of adults achieving sufficient activity for health benefits has increased from 2004 data which showed only 40% of Queensland adults meeting the recommended guidelines (with 20% doing no activity at all). Priority groups at greatest risk are Aboriginal and Torres Strait Islander people, lower socio-economic groups, rural communities, and people from some ethnic groups.

UNSUSTAINABLE IMPLICATIONS FOR THE HEALTH SYSTEM

Overweight and obesity are risk factors for a wide range of chronic diseases and health issues, as outlined in Table 1. ⁽¹⁴⁾ In children and young people the most immediate consequence of childhood obesity is social discrimination associated with poor self-esteem and depression. Children or adolescents who are overweight are also more likely to develop other co-morbidities than children of healthy weight. ⁽¹⁵⁾

In the longer term, excess weight gain in childhood and adolescence is now known to be predictive of adult overweight and obesity, chronic diseases (such as cardiovascular disease, type 2 diabetes and some forms of cancer) and early mortality.

Table 1: Relative risk of health problems associated with obesity (NHMRC)

Greatly increased relative risk >>3	Moderately increased relative risk 2-3	Slightly increased relative risk 1-2
Type 2 diabetes Gall bladder disease Hypertension Dyslipidaemia Insulin resistance Breathlessness Sleep apnoea	Coronary heart disease Osteoarthritis (knees) Gout and hyperuricaemia	Cancer (postmenopausal breast cancer, endometrial cancer, colon cancer) Reproductive hormone abnormalities Polycystic ovary syndrome Impaired fertility Low back pain Increased anaesthetic risk Foetal defects arising from maternal

Rising rates of preventable chronic diseases

Chronic diseases, such as heart disease, heart failure, stroke, Type 2 diabetes, respiratory disease, kidney disease and some forms of cancer are currently the major cause of death and disability among adults in Queensland, as throughout the developed world.⁽⁴⁾ Importantly, more than one-third of all deaths in Queensland are the result of chronic diseases that could have been prevented.

The prevalence rates of some chronic diseases are higher in Queensland than the rest of Australia, for example coronary heart disease rates are about 10% higher in Queensland than in other States.⁽⁴⁾

An example of the impact of chronic disease on the health system is the number of people in Queensland with chronic renal (kidney) failure. This number is growing by 6% per year⁽⁵⁾ and resultant treatment costs are expected to increase by \$35 million per annum over the next 10 years.⁽⁸⁾

Poor nutrition, physical inactivity, tobacco smoking and alcohol misuse are four major risk factors that are implicated.⁽⁵⁾ It has been projected that chronic diseases related to obesity will cause the current generation of children to be the first in history to have a shorter life expectancy than their parents.⁽⁶⁾

There are also substantial differences in health status and life expectancy among Queenslanders, with 15% of the population generating 85% of all healthcare expenditures.⁽⁷⁾ Premature death and ill health occurs at greater rates in the most disadvantaged populations, particularly Aboriginal and Torres Strait Islander peoples and people living in socio-economic disadvantage.⁽⁴⁾

The number of people with chronic disease is also increasing rapidly due to the effects of the obesity epidemic and the ageing of the population. Since 1998 there has been more than a 60% increase in obesity in men and a 25% increase in women resulting in about 50 new cases of Type 2 diabetes being diagnosed each day in Queensland; Type 2 diabetes is expected to become the largest cause of disease burden by 2023.⁽⁴⁾

Unsustainable Demand

The Australian Government has recently stated that spending on health could soon be 15 % of Gross Domestic Product within a very short space of time. This compares with 5% in 1960 and roughly 10% now. An increasing proportion of these costs is directly attributable to overweight and obesity and its complications.

The health system is already struggling and is unsustainable under these current and growing pressures. The ratio of total health expenditure to Gross National Product increased from 7.5% to 9% in the decade from 1995-96 to 2005-06.⁽¹⁰⁾ Just 15 predominantly chronic diseases drove 56% of the increase in healthcare expenditures between 1987 and 2000 (and 10 of these are associated with obesity).⁽⁷⁾

Although death rates for some chronic conditions such cardiovascular disease is decreasing, morbidity and associated treatment costs are increasing exponentially. For example, over the next 15 years total hospital admissions in Queensland are expected to double mostly due to the effects of chronic disease requiring an additional budget of approximately \$3 billion per year.⁽⁹⁾

Using Type 2 diabetes as an example of one of the health consequences of obesity, a national study in 1999 and 2000 found that the overall prevalence of abnormal glucose tolerance in Australia was 23.7%, ranging from 5.7% in young adults (25-34 years of age) to 5% in those aged 75 years or older.⁽¹⁹⁾ This included diabetes, and impaired glucose tolerance or impaired fasting glucose, conditions that predispose to diabetes and are associated with increased risk of cardiovascular disease. Diabetes prevalence in Australia has more than doubled since 1981. The cost of treating type 2 diabetes in Australia in 2000 was estimated at \$636 million. This could quadruple by 2051 unless the rising prevalence of obesity is arrested and interventions to increase physical activity and healthy eating are implemented.⁽¹⁹⁾

Servicing this demand in Queensland will require an increased health workforce and infrastructure which will be difficult to secure given the expected decrease in size of the recruitment pool relative to the population from 15.6% in 1995 to 13.1% in 2015.⁽¹¹⁾ Queensland's workforce mix and service models will also need to be re-designed to address the changes in the burden of disease (i.e., increasing rates of preventable chronic diseases and decrease in infectious diseases rates).⁽¹²⁾

Direct Costs to the Health System

In several developed countries obesity has been estimated to account for 2-7% of the total health care costs.⁽²⁸⁾ In 1995, the direct costs of obesity in the United States (USA) were estimated at around 9% of total health care costs.⁽¹⁷⁾ For Australia, costs of obesity were estimated at 2% of total health care costs in 1989-90⁽¹⁴⁾, but as the prevalence of obesity in Australia has dramatically increased since then, it is likely that it now contributes a much higher proportion of health costs, with estimates at 7% more recently.

Access Economics in 2005 calculated the economic costs of obesity in Australia which was estimated at \$21 billion, including \$3.8 billion in financial costs and \$17.2 billion in the cost of lost wellbeing.⁽¹⁸⁾ The total economic cost attributable to obesity in the USA was estimated in 1998 to be \$99 billion.⁽²⁷⁾

Some other associated costs related to the risk factors for overweight and obesity include:

- Poor nutrition is responsible for around 16% of the total burden of disease,⁽²¹⁾ is implicated in more than 56% of all deaths, and costs in excess of \$5 billion nationally per year, including direct health care costs of approximately \$3 billion per year in Australia based on 1990 costings.⁽²³⁾
- Lack of physical activity has a direct health care cost of \$1.5 billion per year in Australia.⁽²⁴⁾

Interventions that result in a weight loss of 5kg in all Australians who are overweight or obese would reduce the prevalence of overweight and obesity by 15%. This could reduce the health care costs associated with type 2 diabetes alone by \$18.6 million per year, based on 1993-1994 costs, or up to \$43.7 million per year if the cost of complications is also considered.⁽²¹⁾

Indirect costs – personal, social and economic

In addition to the direct health costs, chronic disease has been estimated to indirectly cost Australian society over \$30 billion per year, primarily due to loss of productivity related to absenteeism and presenteeism, where presenteeism is defined as productivity lost at work due to suboptimal performance, which is estimated to total an average of six working days of lost for each employee annually.⁽¹³⁾ There are also indirect (intangible) costs to the individual including ill health and reduced quality of life. In Australia, the indirect costs of overweight and obesity alone have range from \$4.5 to \$18 billion a year.⁽¹⁵⁾

The economic costs of overweight and obesity often overshadow the health and social consequences of overweight to society and the individual. Obesity not only has huge economic cost, it has a tragic personal cost. For example, studies demonstrate the psychological dysfunction and social isolation and discrimination of overweight or obese children.⁽²⁶⁾

Obesity has been described as the "last remaining socially acceptable form of prejudice".⁽¹⁶⁾ These negative attitudes not only exist within the general public but also among many health professionals, which can seriously affect the treatment of overweight and obesity individuals.

The Queensland context -Population Growth and Demographics

Queensland faces a number of special challenges in dealing with health problems and delivering health services across the care continuum.

Queensland continues to lead Australia's in terms of population growth. For the fourth year running, Queensland was the fastest growing state or territory in Australia, with an increase of nearly 89,000 people in the year to June 2005.⁽²⁹⁾ In 2005-2006, Queensland's population grew by nearly 1500 people per week, including more than 900 from interstate or overseas.⁽⁴³⁾ It is estimated that Queensland will overtake Victoria's population by 2038.⁽¹²⁾

Although strong population growth has positive effects in terms economic development, employment and productivity, it also brings many challenges, particularly in regard to health system and service demands as well as demands on housing, water and other resources. This combined with the ageing of the population will put even more pressure on the health care system.

A further problem that exacerbates the delivery of services to the community is due to Queensland being one of the most decentralised states of Australia. Because of this, delivery of quality health services across rural, regional and remote parts of Queensland proves challenging, particularly when it is difficult to recruit and retain professional health staff.

Queensland's population is also ageing due to increased life expectancy and declining birth rates.⁽¹²⁾ Projections for Queensland suggest that the number of people aged 65 years or more is expected to increase fourfold by 2051.⁽⁹⁾ The ageing of the population combined with rising rates of chronic diseases means that the demands on the health system will not sustainable over the long term.

Service delivery models need to respond to these pressures to better meet the future health needs of the Queensland people. Unless service delivery is reoriented more towards the primary prevention of disease, illness and injury and on activities that promote and protect the health of individuals and communities, the health system will not cope with these ever increasing pressures.

Despite these huge direct and indirect costs to the health system and the broader society as a result of chronic diseases, national expenditure on preventing disease is very small compared with costs spent on treatment and management of chronic disease. For example spending on prevention of obesity is less than \$1 per person annually, but treating the direct consequences costs \$70 per person each year.⁽²⁵⁾

WHAT CAN BE DONE TO PREVENT AND MANAGE THE OBESITY EPIDEMIC?

The obesity epidemic will dramatically affect individuals, families, the economy and all aspects of society. The obesity epidemic is caused by many factors related to environmental, technological, social and economic changes. Urban design, our reliance on cars, advertising and consumer changes have all contributed to reduced physical activity and increased access to and consumption of energy-dense foods.

The structural, political, social and economic aspects of this 'obesogenic' environment all need to be addressed to promote healthy weight.

The Queensland Government believes that the most effective strategy for dealing with obesity requires action from a number of different interests, including food producers, manufacturers, wholesalers, retailers, urban and transport planners, advertisers, employers, sporting associations, non-government organisations, the media and educators, in addition to policy makers at all levels of government.

No single action will stop the epidemic of obesity and it will take the combined, concerted efforts of all these groups to make a difference.

Investment in Prevention – more than keeping the population healthy

As between one third and one half of the burden of disease and injury is preventable, there is a strong need to maximize the potential to promote health and prevent disease, illness and injury.

Reduction in the incidence and prevalence of risk factors can lead to rapid improvements in health, at both population and individual levels. In Queensland, primary prevention through reducing tobacco smoking rates and promoting good nutrition and physical activity can save almost 3,500 deaths per annum, more than those potentially saved through secondary and tertiary prevention initiatives combined.⁽²²⁾ Small changes in health behaviours at a population level can produce significant health improvements.

This will be critical to help individuals improve their health, in ensuring healthier communities and as a means to managing escalating direct and indirect health care costs.⁽³⁰⁾

Some examples of the benefits of preventative actions include:

- lifestyle prevention strategies can reduce the risk of diabetes by 60%⁽³¹⁾ and of coronary heart disease by 37%.⁽⁴⁾
- reducing dietary salt intake by 3g per day, can result in deaths from stroke reducing by 22% and ischaemic heart disease by 16%.⁽³²⁾
- Up to \$8 million per year could be saved for every 1% increase in the proportion of the population that are physically active for health benefit, i.e. for 30 mins per day.⁽³³⁾
- If all overweight or obese Australians lost 5kg, there would be a \$44M saving per year in health care costs associated with Type 2 diabetes and its complications alone.⁽³⁴⁾
- 30-40% of all cancers are preventable by improved nutrition and weight control.⁽³⁵⁾

Despite these identified savings for the health system (and associated benefits for individuals) from lifestyle prevention interventions, only 8.6% of government public health expenditure (representing only 0.1% of total government health expenditure) was spent nationally in Australia in 2004-05 four health promotion activities combined – nutrition, physical activity, injury prevention and sun protection.⁽³⁶⁾

The need for greater focus and commitment to primary prevention has been recognised by the World Health Organisation.⁽³⁸⁾ Many other countries and their health systems face the same challenges as Queensland and Australia and some countries have already committed to developing solutions.

England, for example, has just released *Healthy Weight, Healthy Lives: A Cross-Government Strategy for England*, which is associated with £372 million of resourcing – commensurate with the need for urgent action and significance of the problem.⁽³⁹⁾ The goal of this UK Strategy is to reduce the proportion of overweight and obese children to 2000 levels by 2020. The Strategy has five key elements: healthy growth and development of children; promoting healthier food choices; building physical activity into lives; creating incentives for better health; and personalised advice and support.

Primary prevention across the care continuum

Strategies to address poor nutrition and physical inactivity as risk factors for overweight and obesity have broader benefits across the health continuum.

Prevention strategies are relevant not only for the well population but are also important to those already with disease, disease markers and risk factors, as outlined in Table 2 (adapted from ³⁷), as they can:

- prevent the well population moving to the at-risk group;
- prevent the at-risk group progression to established disease state and chance of hospitalisation;
- prevent/delay the progression of those with established disease to further complications and to prevent readmissions to hospital; and
- enhance the quality of life for those who have controlled but established chronic diseases.

Table 2: Prevention across the Health Continuum – the Population by Stages of Disease Progression (adapted from NPHP ³⁷)

Well Population	At Risk	Established Disease	Controlled Chronic Disease
Primary Prevention	Secondary Prevention/ early detection	Disease Management and Tertiary Prevention	
Promotion of healthy behaviours across the lifecourse Universal and targeted approaches	Early intervention Control of risk factors through lifestyle modification and medication	Treatment and acute care Complications management	Continuing Care Maintenance Rehabilitation Self-management
Public Health Primary Health Care Other Sectors	Primary health care Public Health	Primary Health Care Hospital Care Specialist Services	Primary Health Care Community Care
Prevention Initiatives			
Prevent movement to the at-risk group	Prevention of progression to established disease and hospitalisation	Prevent/ delay progression to complications and prevent readmissions	Enhance quality of life

Collaboration beyond the Health Sector

The social and physical environments in which people live and work have direct effects on their health. A social gradient in health outcomes is well-established, particularly for cardiovascular disease.⁴⁴

The causes and determinants of chronic disease lie beyond the immediate influence of the health system. Lifestyle behaviours are influenced by environmental, technological, social and economic factors including education, housing, employment and community capacity.

Current urban design, reliance on cars, advertising, working patterns, leisure opportunities and peer pressure only make it harder to adopt healthier lifestyles. Increased co-ordinated effort is required across government, industry and the broader community to help make healthier choices easier choices for individuals and families.

Addressing social and physical environments in a sustainable way needs a socio-ecological approach to health, with 'joined-up' multi-sector, multiple-agency government action in partnership with non-government, industry and broader community networks. Only 'joined-up' actions will enable environments in which people live, work, study and play to support healthy choices by individuals and groups, regardless of education and income. Strategies that are progressed need to ensuring health inequalities are reduced rather than unintentionally increased, especially in relation to the most vulnerable population groups.

A FRAMEWORK FOR ACTION

Actions to address the obesity epidemic in Australia need to focus on "healthy people in healthy communities", by acknowledging and addressing the social determinants of health, rather than focusing solely on individual factors in isolation. International evidence shows that outcomes can be achieved through a collaborative multi-strategic approach focusing on two major streams of response:

- providing physical and social environments that support healthy living in home, work, school, public and leisure settings, and
- ensuring parents, carers and individuals have access to the information and skills they need to adopt healthier lifestyles.

Health promotion and risk reduction must start early in life, and take a whole of lifespan approach. Coordinated action and continued investment is required, particularly to target strategies to vulnerable communities, including socioeconomically disadvantaged, and Aboriginal and Torres Strait Islander peoples, at pivotal life stages, i.e. early life, adolescence, pre-pregnancy and pregnancy, and in older life.

Table 3 outlines a matrix to guide initiatives to address the breadth of actions required to tackle the overweight and obesity epidemic in Australia in a coordinated and sustainable response.

Table 3: Matrix to guide and coordinate a mix of obesity prevention initiatives to tackle overweight and obesity in a sustainable way.

OBESITY PREVENTION STRATEGIES		Statewide Strategies			
Settings	Healthy Workplaces	Social marketing and Community-wide Education	Workforce	Evidence and Performance Monitoring	Coordination and Capacity Building
	Healthy Schools				
	Healthy Health settings				
	Healthy Child Care				
	Maternal and Infant Health				
	Family and Community Care Services				
	Neighbourhoods & Community Organisations				
	Media and Marketing				
Priority Populations	Aboriginal and Torres Strait Islander groups				
	Low socio-economic groups				
	Early life				
	Older age groups				
	Physically or mentally disabled				
	Rural and remote communities				

QUEENSLAND HEALTH RECOMMENDATIONS FOR ACTION

1. In the development of the National Preventative Strategy for Australia, ensure the Taskforce consider and include sustainable multi-sector and multi-level strategic approaches to better address overweight and obesity in Australia beyond primary care, including identifying gaps in effort, best practice approaches and address system enablers towards better coordination between tiers of Government.
2. Focus efforts more on the primary prevention of overweight and obesity in the population through actions to promote nutrition and physical activity in a sustainable way, by addressing determinants and causes of preventable chronic diseases, many of which lie outside the responsibilities of the health system.
3. Identify priority areas and population groups where urgent action is needed and opportunities that exist or could be implemented in the future to more holistically prevent and manage overweight and obesity (e.g. , the early years through inclusion of height and weight growth measurements under the new 4 year old Health Check).
4. Address current gaps in identification, management and treatment systems for chronic disease, including better integration of referral pathways across primary secondary and tertiary care for those in the population identified as overweight and obese, especially children and young people.
5. Establish and invest in a comprehensive ongoing national chronic disease risk factor surveillance and monitoring system, including data on determinants of chronic disease and risk factors.
6. Adequately and appropriately resource a national strategy to tackle overweight and obesity, commensurate with the urgency of the issue and prevalence in the population.

KEY AREAS AND PRIORITY ISSUES FOR IMMEDIATE ACTION

Creating Healthy Public Policy and Supportive Environments

Healthy public policy can remove obstacles to the adoption of healthy lifestyles so that healthy choices and easy choices. Healthy public policy is critical to the creation of physical and social environments that are supporting of adopting healthier lifestyles.

Queensland recommends number of important areas for immediate action, especially strengthening policy and legislative responses in the areas of healthy food supply; reduction in TV advertising of junk foods to children; and local government and urban planning processes that will support physical activity, good nutrition and healthy weight.

Healthy food supply

Food supply is the system by which food is made available to consumers, including production, processing, transport, storage, wholesaling and retailing of food. For all Australians, adequate access to a nutritionally sound and varied diet (i.e. food security) is an important social determinant of health and wellbeing. Key issues for consideration to address inequities in food supply that currently exist in Australia include costs and availability, equity issues, food safety and standards, food service settings and rural/remote issues.

Factors known to influence cost and availability of food include:

- community size and proximity to major transport routes;
- transport and freight costs;
- wholesale food price;
- local infrastructure including capital equipment, maintenance and overheads, roads, administration;
- local expertise, including the knowledge, skills and attitudes of retailers; and
- fiscal policy.⁽¹⁵⁾

Since 1998, Queensland Health has conducted five Healthy Food Access Basket (HFAB) statewide surveys which measured the cost and availability of a standard basket of basic healthy food items (which can feed a family of 6 for 2 weeks) across a sample of Queensland stores. The most recent HFAB survey in 2006 showed the cost of the basket increased in Queensland from 2004 to 2006 by an average of almost \$51 (12.6%).⁽⁴⁵⁾ The cost continues to be higher in remote and very remote locations across Queensland, especially towns more than 2000 kilometres from Brisbane. In 2006 the mean cost of the basket was \$107.81 (24.2%) higher in remote stores and \$145.57 (32.6%) higher in very remote stores more than 2000 kilometres from Brisbane compared with the same basket in major cities. The cost of healthy food has also increased more than the cost of less nutritious alternatives.⁽⁴⁵⁾

Because of the seriousness of these data, the Minister for Health in Queensland, called for a national inquiry into food prices by the Australian Competition and Consumer Commission (ACCC) which has now been set up by the Federal Government. The inquiry into grocery prices of basic food items is currently underway, with the outcomes due to at the end of July 2008. The inquiry is taking a broad approach to ensure all aspects of the food supply chain are included - from paddock/farm gate to the check out counter. This includes the current structures of the grocery industry at the supply, wholesale and retail levels as well as pricing practices and factors influencing efficient pricing of inputs along the supply chain. The UK has gone down a similar path with the Prime Minister commissioning a review of actions to ensure a healthy and sustainable food supply.⁽³⁹⁾

It is imperative that outcomes of the ACCC inquiry into food prices are considered, coordinated and actioned at both the state and national level as a matter of priority to address the broad range of inequities in food supply that currently exist across Australia. It is also important that actions consider socio-economic gradients and the identified barriers affecting access to safe and healthy foods for Indigenous and disadvantaged people in remote, rural and urban areas.

There needs to be support for continuation and expansion of successful evidence-based approaches (such as Queensland's Healthy Food Access Basket Surveys, and projects such as Nutrition Policy for Remote Retail Stores). State/Territory Governments and the Federal government also need to work more closely in partnership with the food and drink industry to identify new ways to increase availability of health food options to the Australian public.

Another key food supply issue that is being addressed statewide in Queensland is the quality of drinking water. Tooth decay is the most common chronic childhood disease. Despite and, despite clear evidence that fluoridation helps to prevent dental caries, Queensland has the lowest proportion of its population living in areas with fluoridated water in Australia.⁽⁴⁶⁾ Therefore, the Queensland Government has committed to working towards the extend water fluoridation across Queensland, in collaboration with local governments, communities, and other key stakeholders.

The Queensland Government is also working on addressing food supply issues within settings on a statewide basis, particularly health facilities and state schools. *A Better Choice – Healthy Food and Drink Supply Strategy for Queensland Health Facilities* was launched in August 2007 and will be

mandatory from September 2008 across all facilities owned and operated by Queensland Health including hospitals, community health centres or clinics, rehabilitation centres and office buildings. The strategy also addresses sponsorship and catering as well as vending machines. Implementation workshops to support the Strategy have been held around the state early in 2008 and a toolkit is currently being prepared for consultation with industry groups.

SmartChoices –Healthy Food and Drink Supply Strategy for Queensland State Schools has been mandatory since January 2007. A recent evaluation of the *SmartChoices* strategy has indicated the strategy has improved the nutritional value of foods and drinks in schools (the strategy covers tuckshops, curriculum activities, vending machines, school excursions, sponsorship and advertising, school camps and sporting events, fund raising, class parties, school sporting clubs). Queensland is also progressing a whole-of-school statewide strategy for physical activity. *SmartMoves – Physical Activity Programs in Queensland State Schools*, with full implementation required by December 2008. *SmartMoves* mandates physical activity as a compulsory part of curriculum time (30 minutes per day in primary school; 2 hours per week in secondary schools) as well as includes professional development activities for teachers and the school community.

Reduction in TV advertising of 'junk food' to children

The Queensland Government is implementing a range of initiatives to improve children's nutritional health and weight status. Addressing the negative impact of television advertising of junk food and drinks is one potential strategy as part of a broad community-wide approach to address this issue.

All available evidence suggests that the current national framework regulating the advertising of food and drinks to children is not effectively protecting children from exposure to junk food and drink advertising on television.

Recent reviews of the evidence, which found that food marketing influences food preferences, knowledge, requests for purchases, the consumption of food and beverages, and consequent health status of children, including obesity. Australian children are exposed to high levels of junk food and drink advertising; research indicates that one in three television advertisements during children's viewing times are for food and drinks, and 55% to 81% of these are for junk food and drinks. Recent research also indicates that there has been an increase in the proportion of advertising for junk food and drinks during programs most popular with children between 2006 and 2007.

At a national level, Queensland Health is a member of the State/Territory food and drink advertising and marketing practices jurisdictional working party, under the Australian Health Ministers Advisory Council (AHMAC). In 2007, Queensland Health submitted an independent submission to the August 2007 review of Children's Television Standards as well as contributed to a joint State/Territory submission as well as provided a submission to the review of the Australian Association of National Advertiser's Advertising to Children Code. The outcome of the Australian Communications and Media Authority's review of the Children's Television Standards is due for completion later in 2008.

The matter of television advertising of food and drinks to children has also recently been referred to the Australian Health Ministers' Conference for consideration of a position on the matter.

Due to this compelling evidence, Queensland Health is a strong advocate for the federal government to legislatively regulate 'junk food' advertising and marketing techniques directed at children. This is already occurring in other countries. The UK, for example, has introduced more stringent restrictions to

reduce the amount and impact of the promotion of 'junk foods' to children. The UK has also brought forward the review of these restrictions so as to act on findings as a matter of urgency.⁽³⁹⁾

Planning/legislative processes supporting physical activity and nutrition.

There is strong scientific evidence to support the investment in built environment approaches to promote physical activity and good nutrition. For example, the World Health Organisation has reported that around one-third of current physical inactivity levels (North America and developed regions of the Western Pacific, including Australia) could be prevented through environmental interventions alone.⁽⁴⁰⁾ Specifically these interventions relate to the, design of environments to make them more conducive to physical activity. These effects have been further quantified through meta-analysis studies,⁽⁴¹⁾ for example:

- good urban design and land use at the *community-scale* can increase physical activity levels by 161% (such as proximity of residents, commercial and schools, connectivity of streets, population density, green spaces);
- good urban design and land use at the *street level* can increase physical activity levels by 35% (such as improved lighting, ease and safety of street crossings, pathway continuity, presence of traffic calming structures, aesthetic enhancements); and
- having *access to places* for physical activity can increase physical activity by 48.4% (such as trails, facilities, parks and reducing barriers to these such as safety and affordability).

Other countries are investigating the incorporation of population health issues into planning and legislative approaches. For example, as part of the *Healthy Weight, Healthy Lives: A Cross-Government Strategy for England*,⁽³⁹⁾ the UK is investigating supportive environments for nutrition as well as physical activity, such as in the promotion of planning powers to limit the spread of fast food outlets, particularly in areas close to parks and schools. The UK policy is also committed to encouraging local planning authorities to support physical activity principles when considering planning applications and is investing in training for planners (urban, rural and transport), architects and designers on the health impacts of local plans (eg. spatial plans and planning applications), including developing a toolkit that draws together all planning policy/powers that can be applied to promote physical activity, including good practice models.⁽³⁹⁾

In Australia, current planning legislation has the capacity to regulate the location of food outlets but not the type of food outlet, so changes to legislative frameworks are required if Australia is to make healthy choices easier choices. As a range of sectors has responsibility for various planning powers, joined-up action is difficult to coordinate.

The Queensland Government has commenced actions to investigate how to better coordinate work in this area under the Premier's Eat Well Be Active Taskforce (through a cross-agency government Supportive Environments for Active and Healthy Living working group). Queensland is well placed to progress elements of this work due to a current range of government planning reforms that are occurring, such as the review of the *Integrated Planning Act 1997*, improvements being made to planning tools under *the Local Government Act 1993*, development of a *Queensland Outdoor Recreation Strategy* and a proposed review of the *South East Queensland Regional Plan* by 2010. Queensland Health is supporting a number of smaller projects to investigate what is required (eg. local government and state government planning powers relevant to physical activity and nutrition).

To build on actions that are occurring at the State/Territory level and to link with some more national work such as the Heart Foundation's Supportive *Environments for Physical Activity* project, national

coordination across sectors, including health, would be beneficial to progress this complex area of work as a matter of priority.

Despite the evidence, health impacts are not a routine consideration of most planning decisions in the Australian context (not considered as core issues in planning processes). Therefore, a toolkit and training for planners (as proposed by the UK) would also be a valuable approach to move this agenda forward. Working to address planning workforce issues is also considered a priority as there is currently a shortage of town planners in Australia.

Reorientation of Health Services (Towards More Prevention)

Greater Investment in the Prevention Workforce Capacity

More health professionals need to be recruited, trained and professionally supported across Australia to deliver chronic disease prevention and health promotion services at local community level. There is a particular need for an augmented primary prevention/health promotion workforce to work across healthy weight, nutrition and physical activity. Particular effort needs to focus on innovative ways to recruit and retain the professional workforce in rural, regional and remote areas of the country.

From 2002-03 to 2008-09, Queensland has been investing incrementally up to \$16 million per annum of new funding recurrently in promoting healthy weight, nutrition and physical activity through increased capacity to deliver evidence-based initiatives. This investment supports the work of 148 new primary prevention positions. Initiatives now being delivered more widely and effectively across the state include those under the *Eat Well Be Active – Healthy Kids for Life Action Plan 2005-2008*,⁽⁸⁾ the workplan of the Queensland *Premier's Eat Well Be Active Taskforce* and statewide strategies such as *Eat Well Queensland 2002-2012* and *Be Active Queensland 2006-2012*.

Greater investment in lifestyle risk factor modification programs for those at-risk

Lifestyle behaviours including poor nutrition, inadequate physical activity and overweight contribute to more than one-third of the burden of preventable illness and premature death in Australia.⁽⁵²⁾ Healthy lifestyle programs for people at risk of chronic disease have been demonstrated to be effective in preventing or delaying the onset of diabetes and reducing risk factors for heart disease.^(53, 54)

Queensland Health is coordinating the implementation of actions under the *Queensland Strategy for Chronic Disease 2005-2015*. This *Strategy* sets out the plan for supporting and promoting the adoption of healthy lifestyles to prevent or reduce illness from chronic disease, to identify disease earlier, and to better manage existing conditions. The Queensland Government has allocated over \$150 million towards implementation of the *Strategy* for the period 2005-06 to 2008-09.

Queensland Health has developed two evidence-based healthy lifestyle programs: the *Lighten Up to a Healthy Lifestyle Program* and the *Living Strong- Healthy lifestyle program for Aboriginal and Torres Strait Islander communities*. The *Living Strong* program was adapted from the *Lighten Up* program in

consultation with Aboriginal and Torres Strait Islander communities. It is delivered by Indigenous health workers, with support from other Queensland Health staff.

As part of the *Queensland Strategy for Chronic Disease 2005-2015*, Queensland has provided funding to increase the availability of these programs across Queensland. In 2005-06, allied health or nursing staff were appointed to coordinate the healthy lifestyle programs in health service districts and funding has been provided for non-Government organisations to host healthy lifestyle program coordinators (working towards 36 coordinators across Queensland). In 2005, over 680 adults took part in the *Lighten Up* program in community health centres across Queensland. Evaluation of the program has demonstrated that participants become more physically active, adopt healthier eating patterns, improve their self-esteem and lose weight.

Better diagnosis and management of obesity, particularly for children (including obesity recognised as a chronic disease under Medicare and support for preventive health uptake in primary care)

We need to develop more effective and efficient ways to treat and manage overweight and obesity. Current approaches include individual counselling, group-based behaviour change approaches, self-management, drugs and surgery. Healthier eating habits, increased physical activity and reduction of weight by even small amounts can greatly improve health and quality of life of most of those who are overweight or obese, although people who are severely obese need to lose more weight to improve their risk of chronic disease.

Obesity develops over time. Once it has developed, it is difficult to treat. The prevention of excess weight gain, beginning in childhood, offers the most effective means of achieving healthy weight in the population.⁽¹⁴⁾ However, support also needs to be provided to the many people already affected.

More efforts and investment in primary care needs to be directed towards prevention of disease progression, as outlined in Table 2, through preventing the well population moving to the at-risk group; preventing at-risk patients progressing to established disease states and then prevent/delay the progression of those with established disease to further complications. Currently in primary care, obesity is primarily addressed and managed as a co-morbidity for a range of other chronic conditions such as Type 2 diabetes and heart disease, which is less than optimal. There is also limited capacity and resourcing for general practice to implement preventive activities and address lifestyle behaviours with patients. Strategies to *improve uptake of preventative health in primary care* therefore need to be considered.

Extension of Medicare to recognise obesity as a chronic disease should be a priority for the federal government in more effectively managing and treating obesity, so that an appropriate care model can be applied to target this health issue. This approach would assist to address obesity early, as a risk factor for many chronic diseases, rather than as a co-morbidity once a chronic disease state has been established.

Recognition of obesity as a chronic disease under Medicare is particularly important for childhood obesity, as the early onset of obesity leads to the early onset of many chronic diseases. In particular, obesity in children and young people is associated with chronic and severe medical and psycho-social complications such as Type 2 diabetes, sleep apnoea, metabolic syndrome, and fatty liver disease.

Indeed, around 25% of obese children developed impaired glucose tolerance or Type 2 diabetes with impaired glucose tolerance. ⁽⁵⁵⁾

There is a need for increased *support for weight management funded services and programs* such as effective best-practice healthy lifestyle behaviour modification programs, (eg. Queensland's *Lighten Up* program). National consistency such as minimal standards for these programs needs to be developed and discussions between the federal government and state/territories have commenced under the Council of Australian Governments national reform agenda for Type 2 diabetes. For example, the Greater Green Triangle project in Victoria has data to show that a group-based lifestyle intervention is feasible in primary health care settings, with reductions in biomedical markers for risk factors. Another option could be to fund patient participation in these programs under Medicare. However, an accreditation process for appropriate healthy lifestyles programs would need to also be identified and well as associated referral pathways that interlink general practice and state/territory activities in primary care, community health and acute care.

Programs for children and young people need to be developed and evaluated. There is a need for *further research to identify interventions that are most effective* in encouraging individuals and families, especially those families with an obese child, to change their nutrition and physical activity behaviours. Some work in this area has commenced in Queensland through the Kids on Track/Fast Track program (SE Queensland area), which is piloting and evaluating an integrated family-based care model for childhood obesity (targeting overweight and obese children aged 3 to 10- years), which involves families, schools, hospitals, community health centres and health service districts. ⁽⁵⁶⁾ The program is run by a multidisciplinary team (eg. paediatrician, dietitian, occupational therapist, child health nurse, social worker, physiotherapist and psychologist). This program and the Lifestyle PPP program have been successfully developed in managing children who are overweight or obese. Similarly, Dr Gary Leong from the Mater Children's Hospital in Brisbane, is piloting the Koala Program which is a holistic model that includes physical activity instruction with children and their families through community-based programs. Similar models overseas have proved promising.

Delivery of Consistent Evidence-Based Information to the Community

To overcome the raft of inaccurate physical activity, nutrition and healthy weight information in the public domain, the federal and State/Territory Governments must make a concerted effort to ensure the community receives accurate information based on scientific evidence. Research indicates that around 80% of people currently get information about diet from women's magazines, newspapers and word of mouth; much of this information is known to be inaccurate.

Strategies to enable consumers to receive consistent credible information can be achieved through:

- targeted social marketing campaigns; and
- development of national guidelines based on good science that are readily understood, regularly reviewed and readily available.

Social Marketing

Queensland is encouraged by the commitment and collaboration by state/territory governments and the federal government in progressing the social marketing campaign of the Australian Better Health Initiative (AHBHI), under the banner of the Council of Australian Governments (COAG). This \$500 million commitment to the ABHI initiatives includes a rolling national social marketing campaign to raise awareness of healthy weight (and healthy lifestyles through addressing nutrition and physical activity) and to promote, through evidence-based messages to all Australians. The broader funding of \$500 million over four years that has been assigned to this national program to reduce the prevalence of risk factors contributing to chronic disease. This government collaboration provides a positive model for future national coordination of effort.

The Queensland Government has progressed two complementary social marketing campaigns for nutrition and physical activity. The Go for 2&5[®] fruit and vegetable promotion campaign in Queensland is proving very successful and has increased consumption of fruit and vegetables to 4.2 serves per person per day, an increase of 0.7 serves per person per day which has been estimated to equate to a saving of \$35 million per year in health care costs. The Queensland Government is also investing in a physical activity campaign to promote the adult physical activity guidelines and assist to effect population level behaviour change. The 2008 phase is focusing on a 'Your30' message strategy, with links to healthy food choices. Most healthy weight, physical activity and nutrition funded initiatives of the Queensland Government are also now commonly co-branded with the trademarked Queensland Government 'Eat Well Be Active' logo.



Evidence-Based National Guidelines

Queensland Health welcomes the 2008 review of the suite of Dietary Guideline publications (adults, older Australians, children and adolescents as well as the Core Food Groups) under the auspice of the National Health and Medical Research Council (NHMRC), to align with the Nutrient Reference Values for Australia and New Zealand (2006).

Queensland Health is also supportive of the development of dietary guidelines for pregnancy and breastfeeding women under the NHMRC auspice. Queensland would also like to call for these NHMRC processes to be adopted for developing complementary physical activity guidelines for pregnant women, as studies suggest few women understanding how to incorporate physical activity into the gestational lifestyle period.⁽⁶⁶⁾

In addition, the physical activity guidelines for adults have not been reviewed since their introduction by the Commonwealth Government in 1999 and such a review should be progressed as a priority under the auspices of the NHMRC, particularly considering evidence is now suggesting that, irrespective of an individual's level of physical activity, sedentary behaviours may also be an independent risk factor for chronic diseases such as Type 2 diabetes^(67, 68) and overweight and obesity⁽⁶⁹⁾.

Although developed more recently in 2004, physical activity recommendations for children and young people were also not overseen by NHMRC review processes and therefore could be considered for review in conjunction with the adult physical activity guidelines. Queensland Health understands that the Australian Government is in the process of developing physical activity guidelines for children under 5 years of age as well as for older Australians. This evidenced-based information is timely and is much needed by the community and therefore Queensland would encourage these new guidelines to be developed and made available to the Australian public, health professionals and other interested stakeholders as a matter of priority.

PRIORITY GROUPS AND CRITICAL LIFESTAGES

Aboriginal and Torres Strait Islanders and other vulnerable groups

Groups with low income, low levels of education and those in low status occupations are less likely than those with higher socioeconomic status (SES) to have food purchasing, preparation and consumption patterns consistent with recommended dietary guidelines for Australia.^(47, 48) The diet of lower SES groups includes more cheap, energy-dense foods rich in fats and carbohydrates compared to that of higher socioeconomic groups, but fewer foods of low energy density rich in protective nutrients such as fruit and vegetables.⁽⁴⁹⁾

It is not yet clear how the relative contributions of education, occupation and income contribute to the socioeconomic gradient in obesity. However, these factors are themselves inter-related and are strongly determined by childhood socioeconomic factors. Low SES groups are differentially disadvantaged by the intergenerational effects of poor maternal diet, and poor infant and childhood growth and development.⁽²⁶⁾ A range of social determinants underpins the poor nutritional health status of Indigenous Australians. These include poverty, disrupted family and community cohesion, social marginalisation, stress, lower levels of education, unemployment, lack of control over circumstances, inadequate and overcrowded housing, inadequate sanitation, water supplies and hygiene, limited access to transport, and discrimination.^(50, 51)

Early Life

The early years have been identified as a good investment across a wide range of sectors as they yield the best outcomes for children and families and the greatest return on investment. We know that positive social, economic, educational and environmental conditions improve the growth and development, mental health and the short and longer term health of children and young people.

The period from pre-conception through to childhood provides a time-limited opportunity to influence the learning, behaviour, health and wellbeing of the whole population. Good maternal nutrition, healthy infant and childhood nutrition and growth are fundamental to the achievement and maintenance of health throughout the life cycle and affect the health of succeeding generations.⁽²³⁾ In addition, the link between the maternal and infant health and chronic conditions such as diabetes, heart disease and high blood pressure in later life is clear, and that these conditions are appearing at much younger ages.⁽¹⁰⁾

Key intervention issues relevant to overweight and obesity for the area of early life include:

1. Ante-natal

Maternal undernutrition and smoking contribute to intrauterine growth restriction and low birth weight, which are associated with neuro-developmental delay, and the development of diabetes, heart disease and high blood pressure.⁽⁵⁷⁾

Aboriginal and Torres Strait Islander people and other vulnerable groups are at increased risk due to higher rates of smoking, pregnancy at a young age, and diabetes during pregnancy. Low birth weight is more prevalent amongst infants of Aboriginal and Torres Strait Islander mothers than in the general population.⁽⁵⁰⁾

There is as J or U shaped relationship between birthweight and increased risk of child or adult obesity with both low birthweight and high birthweight babies being at increased risk. Maternal BMI is also correlated with birthweight. Thin, poorly nourished mothers tend to have poorly nourished low birthweight babies and obese mothers tend to have high birthweight babies.

Diabetes in pregnancy also has potential intergenerational effects.^(58, 59) Diabetes in pregnancy is associated with increased risk of obesity and diabetes in the child, and prevalence of diabetes is much higher amongst Torres Strait Islander mothers than the general population.⁽⁵⁰⁾

One strategy Queensland Health is implementing for the ante-natal and post-natal period is *Growing Strong*, which is a series of resources aimed at supporting health workers to better engage with Aboriginal and Torres Strait Islander mothers and families. Evaluation has demonstrated that the training and resources improve the health workers' confidence and knowledge. Resources target low literacy clients. They provide information on healthy eating during the antenatal period and the early years, in addition to addressing breastfeeding and management of common problems. Evaluation of *Growing Strong* in 2005 found that the resource was widely used Queensland Health in addition to a number of other States and Territories. The format and information included in the resource was found to be conducive to the education of the Aboriginal and Torres Strait Islander target group.

2. Breastfeeding

The first 12 months of a baby's life are a time of very rapid growth and development, which makes nutrition an essential factor during this time. Optimal infant nutrition through breastfeeding and the appropriate introduction of solid food is a key factor in growth and development. Strategies to improving breastfeeding rates will have a positive impact on the long term sustainability of Australia's health system by providing protection against obesity, serious infant infections and a range of chronic disease for both infants and mothers.

Inappropriate nutrition in infancy and childhood is associated with failure to thrive, increased infectious disease, overweight and obesity, adult onset of cardiovascular disease and type 2 diabetes. Breastfeeding is associated with improved general health, growth and development of infants and higher adult intelligence,⁽⁶¹⁾ protection against several acute and chronic diseases, including infectious diseases, diabetes, obesity, allergic disease, autoimmune disease, and dental caries.⁽²³⁾

The National Breastfeeding Strategy target was for at least 80% of Australian infants to be at least partially breastfed at six months of age. Results of the 2003 Queensland Health (QH) Infant Nutrition Survey and Child Health Survey indicate while the large majority of mothers initiate breastfeeding (91.8%), few continue according to WHO recommendations with only 57% of infants receiving any breastmilk at six months and only 32% of infants breastfed to 12 months of age.⁽⁶²⁾ While data on exclusive breastfeeding rates is difficult to obtain, we know that formula is widely used and introduced early. Alarming, 23% of all children aged less than five years

of aged commenced formula before four weeks of age. Queensland Health is now supporting a repeat Infant Nutrition Survey and Child Health Survey and is in the process of collecting data from the population.

Queensland is promoting the duration of breastfeeding through a number of strategies including:

- Support for a social marketing campaign to promote duration of breastfeeding.
- Promotion of breastfeeding telephone support services, including the national Australian Breastfeeding Association (ABA) telephone helpline and child health support services in Queensland. The federal government has been providing funding to the ABA for education and support and the national (volunteer) helpline. A House of Representatives inquiry into breastfeeding recommended continuation and expansion of support for the ABA.
- Adoption of the adopt WHO/UNICEF's Baby Friendly Hospital Initiative (BFHI) by maternity services is a performance indicator of the 2007 Maternity Services Committee review of Queensland Maternity Services. The House of Representatives inquiry into breastfeeding also recommended this strategy as one of the approaches. The former federal government previously funded the Australian College of Midwives (ACMI) to implement the BFHI, but this is no longer supported.
- Support for a Personal Health Record (given to parents of all babies born in Queensland). This is the most developed, best quality and up-to-date resource of its kind in Australia and it includes optimal infant feeding information based on NHMRC guidelines.
- Through consultation, Queensland Health is recommending the use of the WHO growth charts, however, this is on hold in Queensland until the outcomes of a National Review regarding standardisation of Growth Charts is completed;
- Work commitments have been identified in a Queensland study as a factor affecting breastfeeding duration. Public workplace policies and environments should be created to establish and continue breastfeeding. Queensland Health has a Work and Breastfeeding Policy (2006) and is currently investigating the feasibility of expanding this to be a whole-of-government policy in Queensland. Conditions around maternity leave should also address to support the successful establishment of breastfeeding.

3. Childhood growth and development

Growth is the most important indicator of the health status of a child, and is an indirect reflection of the health status of the entire community.⁽⁶⁰⁾ There are two major issues related to child growth in Queensland: 1. childhood overweight and obesity has emerged as a major public health problem; and 2. undernutrition affects the health of some Indigenous children, and some other children in disadvantaged circumstances. Undernutrition, as expressed by low weight for age, low height for age, or low weight for height, has been reported in several Indigenous communities in Queensland, and is directly related to increased rates of hospitalisation for infectious diseases in early life, and chronic diseases in later life.⁽⁶⁰⁾

Queensland Health has introduced Growth Charts into the Personal Health Record given to all mothers on the birth of their child in Queensland. The series of charts include Body Mass Index (BMI) for age for children aged two-20 years which is correlated with the risk of overweight and obesity and underweight. This is the first time BMI has been used in a child population in Queensland. The Personal Health Record provides information on developmental milestones, growth standards and immunisation. The booklet has been translated into fact sheets in five different languages (available on the Queensland Health website).

Under Medicare's new four-year old health check (currently under development), there is an opportunity to include height and weight for age growth charts as well as consideration of data recall systems in primary care for ongoing monitoring, particularly if BMI is outside normal variants at this time (under the 3rd percentile or over the 97th percentile). As child growth is variable, such measures need to be tracked over time.

4. Basic skill development and physical literacy

Children learn in many ways, including through observation, interaction, play and real-life experiences. Play, however, is the fundamental medium for young children's learning. Play facilitates all development and is an important means of initiating, promoting and sustaining learning. Many activities are referred to as 'play' – for example, gross motor skills such as running, climbing, playing 'shops' and making a sandcastle are all characterised as play.⁽⁶³⁾

The early years are a crucial time in laying the foundations for children's physical competence. Research suggests that the critical period for mastering fundamental movement skills (locomotion, ball control, throwing, catching, kicking and striking) is between the ages of two and seven years old.⁽⁶⁴⁾ Studies have identified that early childhood years are the most influential in establishing habits and setting the foundation for continued learning throughout life.⁽⁶⁵⁾ Learning movement skills is the start of physical activity.

There are still no national physical activity guidelines for children under five years of age in Australia. These guidelines would help health professionals promote consistent evidence based physical activity messages to the parents, families and the broader community. This will also assist in guiding the development of best practice standards for physical activity in childcare settings across Australia, as a means to optimise motor skill development.

EFFECTIVE AND SUSTAINED MONITORING AND SURVEILLANCE

To ensure strategies are effective and evidence based, it is important to direct investment towards a centrally coordinated ongoing monitoring and surveillance system that collects a range of data elements, including risk factor prevalence and determinants data across the population. This will help the systematic development of the evidence base to inform policy and program design and assist in evaluation and performance measurement.

The system will need to support measurement, analysis, evaluation, policy and action research regarding risk factor knowledge, attitudes, intentions, behaviours and related health status outcomes, in order to increase understanding of the determinants and consequences of chronic disease and the effectiveness of interventions. The new national "rolling" nutrition and physical activity survey provides some opportunities for progressing this agenda, however, there is room for expansion of the scope of this program, as the required monitoring and surveillance system is broader than a survey program.

Using nutrition as an example, a monitoring and surveillance system would comprise of ongoing analysis and interpretation of a range of data elements including measurement of:

- The sustainability of the food supply including: food availability (what we produce, what we import and what we export as a country); food composition; and food distribution; resource management and ecological sustainability;
- Food purchasing and acquisition including food choice, food prices, food access;
- Food behaviours including dietary intake, frequency of eating; and
- Nutritional status and health outcomes including biological measures and rates of diet related diseases.

To do this effectively requires a central coordination unit that would:

- oversee and coordinate the collection of data but not necessarily undertake data collection (in many instance data may be better collected by others or outsourced);

- interpret data from a range of sources and provide an intelligence base for monitoring food and nutrition, physical activity and chronic disease.
- Forecast emerging nutrition, physical activity and chronic disease problems.
- Provide advice on evaluation of interventions and assist in the building of an comprehensive evidence base
- Recommend standardised questions and survey methodology and promote consistency in monitoring activities in order to promote comparisons between local, state and national level monitoring activities.

For overweight and obesity, self-reported measures of height and weight is problematic and therefore more objective measures, such as measured height and weight data for both adults, children and young people, are required nationally as a matter of urgency. Currently the Australian Institute of Health and Welfare only collects self-reported data.

Similarly to nutrition, monitoring and surveillance for physical activity prevalence would also require the collection of a range of data measures, including indicators for behaviours related to other sectors, such as transport-related behaviours (e.g., mode-shift data: from car to public transport and/or active transport), environmental measures and sedentary behaviours.

Some further research on valid instruments for collecting nutrition, physical activity (including sedentary behaviours) and weight measurements across population groups also needs to be progressed as a matter of priority. For example, current valid and reliable instruments for collecting physical activity behavioural data for the adult population has now been shown not to be valid for some population groups, such as Aboriginal and Torres Strait Islander people.

CONCLUSION

Queensland Health welcomes the opportunity to provide this submission to the House of Representatives to the inquiry into obesity in Australia. Overweight and obesity has serious consequences for the whole health system in Australia as well as for, society, the community and individuals. The time to act, in terms of coordinated national effort, is now. It has to be sustained. It has to focus on prevention as a priority. And it has to be resourced appropriately at the national level to enable effective action. Australia cannot wait any longer for this commitment, considering the high prevalence of overweight and obesity, particularly for our children.

To not act will lead to a devastating impact on the economy, a health system in crisis and an increasing level of obesity-related chronic disease and disability and additional personal and social trauma. It may also further widen, rather than reduce, the gap in health status between those most advantaged and those most vulnerable in our society.

REFERENCES

- ¹ Abbott, R A., Macdonald, D, Mackinnon L, et al. Healthy Kids Queensland Survey 2006 – Summary Report. Queensland Health. 2007.
- ² This figure is estimated from state population numbers and obesity prevalence from the 1995 National Nutrition Survey (children and young people) and AusDiab 2000 (adults) and is likely to underestimate current numbers.
- ³ Lean, M, Lara J, and Hill, J. O. 2006 Strategies for preventing obesity. *British Medical Journal*. 333:959-962.
- ⁴ Queensland Health. The Health of Queenslanders 2006. Report of the Chief Health Officer. Brisbane : Queensland Health, 2006.
- ⁵ Queensland Health. Queensland Strategy for Chronic Disease 2005-2015. Brisbane : Queensland Health, 2005.
- ⁶ Olshansky, S.J. et al A Potential Decline in Life Expectancy in the United States in the 21st Century *New England Journal of Medicine*, Vol 352, 1138-1145 March 17, 2005
- ⁷ Gross, Paul F. Mind the gaps: increasing personal health security via prevention and economic incentives. Health Group Strategies Pty. Limited and The Institute of Health Economics and Technology Assessment, 2006.
- ⁸ Smart State healthy weight for children and young people, Eat Well Be Active: Healthy Kids for Life, The Queensland Governments first action plan 2005-2008, Queensland Government, 2005.
- ⁹ Queensland Government. Queensland Statewide Health Services Plan 2007-2012. Brisbane: Queensland Government, 2007, based on service data projections 2006.
- ¹⁰ Australian Institute of Health and Welfare 2007. Health expenditure Australia 2005–06. Health and Welfare Expenditure Series no. 30. Cat. no. HWE 37. Canberra: AIHW.
- ¹¹ Queensland Health Workforce data projections, 2006
- ¹² Queensland Health Strategic Plan 2004-2010. Queensland Health. 2004. Queensland Government.
- ¹³ Medibank Private. Sick at work: the cost of presenteeism to your business, employees, and the economy. Econotech for Medibank Privates, 2007.
- ¹⁴ National Health and Medical Research Council. Clinical Practice Guidelines for the Management of Overweight and Obesity in Adults. Canberra: National Health and Medical Research Council, 2003.
- ¹⁵ Queensland Obesity Summit Information Pack. May 2006. Queensland Government.
- ¹⁵ Denney-Wilson, Booth & Baur 2001
- ¹⁶ Stunkard A J and Sobal J. 1995. Psychological consequences of obesity. In: *Eating disorders and obesity: a comprehensive handbook*. Ed: Brownell KD & Fairburn CG, The Guildford Press, New York.
- ¹⁷ World Health Organisation. Diet, nutrition and the prevention of chronic diseases. Geneva: World Health Organisation, 2003.
- ¹⁸ The Economic Costs of Obesity, Access Economics 2006.
- ¹⁹ Dunstan DW, Zimmet PZ, Welborn TA, de Courten MP, Cameron AJ, Sicree RA, et al. The Rising Prevalence of Diabetes and Impaired Glucose Tolerance: The Australian Diabetes, Obesity and Lifestyle Study. *Diabetes Care* 2002;25(5):829-834.
- ²⁰ Davis WA, Knuiiman MW, Hendrie D, Davis TME. The obesity-driven rising costs of type 2 diabetes in Australia: projections from the Fremantle Diabetes Study. *Internal Medicine Journal* 2006;36(3):155-161.
- ²¹ Cole TJ, Bellizzi MC, Flegal KM, Dietz WH. Establishing a standard definition for child overweight and obesity worldwide: international survey. *BMJ* 2000;320(7244):1240-.
- ²² Health Determinants Queensland, Queensland Health, 2004
- ²³ Eat Well Australia, A strategic framework for Public Health Nutrition 2000-2010, National Public Health Partnership, 2000.
- ²⁴ Medibank Private (2007) The cost of physical inactivity. What is the lack of participation in physical activity costing Australia? August 2007.
- ²⁵ Catford JC, Caterson ID. Snowballing obesity: Australians will get run over if they sit there. *Medical Journal of Australia*.1/15 December 2003;179:577-579.
- ²⁶ Lobstein T, Baur L, Uauy R, IASO International Obesity Taskforce. Obesity in children and young people: a crisis in public health. *Obesity Reviews* 2004;5(Suppl. 1):4-85

- ²⁷ Wolf A M, and Colditz G A. 1998 Current estimates of economic costs of obesity in the United States. *Obesity Research*, 6 (2): 97-106.
- ²⁸ WHO TRS 894 "Obesity - preventing and managing the global epidemic".
- ²⁹ Population Growth – Highlights and Trends. Queensland 2006. Department of Local Government, Planning, Sport and Recreation. Queensland Government.
- ³⁰ Smart State: Health 2020 Directions Statement, 2002
- ³¹ Diabetes Australia - Queensland. Diabetes - the facts and figures. [Online] [Cited: 28 January 2008.] <http://www.dag.org.au/content/?id=154>.
- ³² Dietary Guidelines for Australian Adults, National Health and Medical Research Council, 2002 pp 133-146.
- ³³ Stephenson, J., A. Bauman, T. Armstrong, B. Smith and B. Bellew. 2000. The Costs of Illness Attributable to Physical Inactivity in Australia: A Preliminary Study. Commonwealth of Australia. Canberra, ACT.
- ³⁴ Marks G, Coyne, T, Pang G. Type 2 diabetes costs in Australia - the potential impact of changes in diet, physical activity and levels of obesity. Canberra: Commonwealth Department of Health and Ageing; 2002.
- ³⁵ Food, Nutrition, Physical Activity and the Prevention of Cancer: a Global Perspective, World Cancer Research Fund and American Institute for Cancer Research, Washington, 2007.
- ³⁶ Implementing the national priorities for injury surveillance Rebecca J Mitchell, Rod J McClure, Ann M Williamson and Kirsten McKenzie. *MJA* 2008; 188: 405–408
- ³⁷ Preventing Chronic Disease: A Strategic Framework. National Public Health Partnership. 2001.
- ³⁸ World Health Organisation. Preventing Chronic Diseases: a vital investment: WHO Global Report. Geneva : WHO Press, 2005.
- ³⁹ Healthy Weight, Healthy Lives: A Cross-Government Strategy for England, London, UK, 2008.
- ⁴⁰ Pruss-Ustun A, Corvalan C. Preventing disease through healthy environments. Towards an estimate of the environmental burden of disease: World Health Organisation; 2006.
- ⁴¹ Heath GW, Brownson RC, Kruger J, Miles R, Powell KE, Ramsey LT and the Task Force on Community Preventive Services. The effectiveness of urban design and land use and transport policies and practices to increase physical activity: A systematic review. *Journal of Physical Activity and Health*. 3: S55-S76, 2006.
- ⁴² The Ottawa Charter for Health Promotion First International Conference on Health Promotion, Ottawa, 21 November 1986.
- ⁴³ ABS (2006). Regional population growth Australia, 2005-06. Cat No 3128.0. Canberra. Australian Bureau of Statistics. www.abs.gov.au
- ⁴⁴ Wilkinson R, Marmot M, editors. The Social Determinants of Health: The Solid Facts. Europe: WHO, 1998.
- ⁴⁵ Queensland Government (Queensland Health, Treasury). The 2006 Healthy Food Access Basket (HFAB) Survey: Full Report. Brisbane: 2007.
- ⁴⁶ Queensland Health Population Health Plan 2007-2012. Queensland Health, Queensland Government. Brisbane 2007.
- ⁴⁷ Turrell G. Educational differences in dietary guideline food practices: are they associated with educational differences in food and nutrition knowledge? *Aust J Nutr Diet* 1997;54:25-33.
- ⁴⁸ Mishra G, Ball K, Patterson A, Brown W, Hodge A, Dobson A. Socio-demographic inequalities in the diets of mid-aged Australian women. *Eur J Clin Nutr* 2005;59:185-195.
- ⁴⁹ James WPT, Nelson M, Ralph A, Leather S. Socioeconomic determinants of health: The contribution of nutrition to inequalities in health. *BMJ* 1997;314(7093):1545-.
- ⁵⁰ NHMRC. Nutrition in Aboriginal and Torres Strait Islander Peoples: An information paper. Canberra: National Health and Medical Research Council, 2000.
- ⁵¹ National Aboriginal and Torres Strait Islander Health Council. The National Aboriginal and Torres Strait Islander Health Strategy (draft), 2001.
- ⁵² Mathers, C T Vos and C Stevenson (1999). The Burden of Disease and Injury in Australia. Canberra, AIHW. Tuomilehto J, Lindstrom J. The major diabetes prevention trials. *Current Diabetes Reports* 2003;3:115-122.
- ⁵³ Lindstrom J, Louheranta A, Mannelin M, Rastas M, Salminen V, Eriksson J, et al. The Finnish Diabetes Prevention Study (DPS): Lifestyle intervention and 3-year results on diet and physical activity *Diabetes Care* 2003;26(12):3230-3236.

- ⁵⁴ Tuomilehto J, Lindstrom J. The major diabetes prevention trials. *Current Diabetes Reports* 2003;3:115-122.
- ⁵⁵ Weiss, R, Taksali, S. E., Tamborlane, W. V. et al. 2005. *Diabetes care* 28 (4): 902.
- ⁵⁶ Shelton, D, Le Gros, K, Norton, L et al. 207. *Journal of paediatrics and child health.* 43(12):799
- ⁵⁷ Barker D. *Mothers and Babies and Health in Later Life.* 2nd ed. Edinburgh: Churchill Livingstone, 1998.
- ⁵⁸ Pettit DJ, Aleck KA, Baird HR, Carraher MJ, Bennett PH, Knowler WC. Congenital Susceptibility to NIDDM. Role of the Intrauterine Environment. *Diabetes* 1988;37:622-628.
- ⁵⁹ Silverman BL, Metzger BE, Cho NH, Loeb CA. Impaired Glucose Tolerance in Adolescent offspring of Diabetic Mothers Relationship to fetal hyperinsulinism. *Diabetes Care* 1995;118:611-617.
- ⁶⁰ Health Information Centre. Information Circular 58: Towards healthy growth and development: Issues of overweight, obesity and undernutrition among children in Queensland. Brisbane: Queensland Health, 2001.
- ⁶¹ Mortensen EL, Michaelsen KF, Sanders SA, Reinisch JM. The association between duration of breastfeeding and adult intelligence. *J A M A* 2002;287:2365-2371.
- ⁶² Queensland Health. Queensland Health Infant Nutrition Survey and Child Health Survey. Epidemiology Services Unit and Health Information Centre, Queensland Health. 2003.
- ⁶³ Queensland School Curriculum Council. *Preschool Curriculum Guidelines.* Brisbane, 1998:Adapted from page 30.
- ⁶⁴ Gallahue D. *Developmental physical education for today's children.* Dubuque. Iowa: Wm C. Brown, 1993.
- ⁶⁵ Taggart A, Keegan K. Developing Fundamental Movement Skills in Outdoor Settings: Three Case Studies of Children Playing. *ACHPER Healthy Lifestyles Journal* 1997;44(4):11
- ⁶⁶ Doran, F and O'Brien, A. P. A brief report of attitudes towards physical activity during pregnancy. *Health Promotion Journal of Australia* 2007;18:155-8
- ⁶⁷ Dunstan DW, Salmon J, Healy GN, Shaw JE, Jolley D, Zimmet PZ, Owen N. *Association of television viewing with fasting and 2-h postchallenge plasma glucose levels in adults without diagnosed diabetes.* *Diabetes Care.* 30 (3): 516 – 22 2007 Mar.
- ⁶⁸ Hamilton, M.T., Hamilton, D.G., Zderic, T.W. (2007). *The role of low energy expenditure and sitting on obesity, metabolic syndrome, type 2 diabetes, and cardiovascular disease.* *Diabetes* 56, 2603-09.
- ⁶⁹ Mummery, K.W., Schofield, G.M., Steele, R., Eakin, E.G., Brown, W.J. (2005). *Occupational Sitting Time and Overweight and Obesity in Australian Workers.* *American Journal of Preventive Medicine,* 29(2): 91-97.